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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,526	09/27/2001	Shinji Tomita	KPC-294	9267
23353	7590	05/12/2005		
RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			EXAMINER SHOSHO, CALLIE E	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,526

Applicant(s)

TOMITA ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/28/05 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blum et al. (U.S. 6,706,801).

Blum et al. disclose coating composition comprising 10-50% acrylic resin obtained from monomers including hydroxyalkyl (meth)acrylate, 1-15% polyisocyanate, 40-90% pigment, 0-3% catalyst, and 0-50% fine resin particles. It is disclosed that the ratio of isocyanate group in the polyisocyanate to 1 equivalent hydroxyl group in the acrylic resin is 0.5-2 and that the weight ratio of pigment to resin solid matter is 1.5:1 to 15:1 which almost completely overlaps the claimed ratio of 1:1 (100:100) to 5:1 (500:100). It is also disclosed that the hydroxyl content of the acrylic resin is 0-8 wt.% or preferably 0.2-3.5 wt.% from which it is calculated that the hydroxyl number is 0-80 or 2-35 (mg KOH/g). There is further disclosed a coating method for repair comprising conducting surface treatment at part to be repaired, providing the above coating composition, i.e. undercoating, and providing topcoat (col.1, lines 5-10, col.3, line 54-col.4, line 11, col.5, lines 32-46, col.6, lines 15-21, col.9, lines 41-60, col.10, lines 54-56, col.11, lines 8-10 and 20-23, col.13, lines 35-40 and 45-49, col.14, lines 10-12 and 25-28, col.15, line

64-col.16, line 15, and col.16, lines 61-67). Although there is no explicit disclosure of the glass transition temperature of the acrylic resin, example 7, for instance, discloses acrylic resin obtained from acrylic acid, butyl acrylate, styrene, and hydroxypropyl methacrylate from which it is calculated, using the well known glass transition temperatures of each of the components, that the glass transition temperature of the acrylic resin is approximately 70 °C.

The difference between Blum et al. and the present claimed invention is the requirement in the claims of (a) ratio of isocyanate group in the polyisocyanate to 1 equivalent of hydroxyl group in the acrylic resin and (b) total solid matter.

With respect to difference (a), Blum et al. disclose that the ratio of isocyanate group in the polyisocyanate to 1 equivalent of hydroxyl group in the acrylic resin is 0.5-2 while the present claims require ratio of greater than 2.0 (claims 3-4) or 2.2 (claims 5-8).

It is apparent, however, that the instantly claimed ratio and that taught by Blum et al. are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the ratio disclosed by Blum et al. and the ratio disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the ratio disclosed in

the present claims is but an obvious variant of the ratio disclosed in Blum et al., and thereby one of ordinary skill in the art would have arrived at the claimed invention.

With respect to difference (b), there is no explicit disclosure in Blum et al. of the total solids present in the composition. However, Blum et al. do teach mixing acrylic resin, polyisocyanate, pigment, curing catalyst, and resin fine particles and then adding water and/or organic solvent to adjust the composition to the required processing consistency (col.5, lines 32-46), i.e. the required total solid matter. It would have been within the skill level of one of ordinary skill in the art to recognize that the desired consistency or desired total solid matter of the composition depends on both the method used to apply the coating as well as the type of substrate to which the coating is applied.

In light of the teaching in Blum et al. of adding water and/or solvent to the mixture of acrylic resin, polyisocyanate, pigment, curing catalyst, and resin fine particles to achieve the desired consistency, i.e. the desired total solids, it therefore would have been obvious to one of ordinary skill in the art to control the total solids of the composition of Blum et al. to values, including those presently claimed, depending on the method of application and desired end use of the composition, and thereby arrive at the claimed invention.

Response to Arguments

5. Applicants' arguments filed 2/28/05 have been fully considered but they are not persuasive.

Specifically, applicants argue that Blum et al. is not a relevant reference against the present claims given that Blum et al. do not disclose ratio of isocyanate group in the

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polyisocyanate to 1 equivalent hydroxyl group in acrylic resin as presently claimed. Applicants also point to comparative example 1 of the present specification that discloses ratio below 2 and note that in this example, the gloss of the coating film is deteriorated.

It is noted that Blum et al. disclose that the ratio of isocyanate group in the polyisocyanate to 1 equivalent of hydroxyl group in the acrylic resin is 0.5-2 while the present claims require ratio of greater than 2.0 (claims 3-4) or 2.2 (claims 5-8).

It is apparent, however, that the instantly claimed ratio and that taught by Blum et al. are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”. In light of the case law cited above and given that there is only a “slight” difference between the ratio disclosed by Blum et al. and the ratio disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the ratio disclosed in the present claims is but an obvious variant of the ratio disclosed in Blum et al., and thereby one of ordinary skill in the art would have arrived at the claimed invention.

With respect to the comparative example pointed to by applicants, it is the examiner’s position that this example does not establish unexpected or surprising results over the cited prior art given that the comparative example is not within the scope of the present claims and further

given that the prior art, i.e. Blum et al., is closer to the claimed invention than the comparative example.

Specifically, the comparative data in the present specification compares coating within the scope of the present claims, i.e. ratio of isocyanate group in the polyisocyanate to 1 equivalent of hydroxyl group in the acrylic resin of 2.5 (example 1), with coating outside the scope of the present claims, i.e. ratio of 0.7 (comparative example 1).

However, col.3, lines 37-38 of Blum et al. disclose ratio of isocyanate group in the polyisocyanate to 1 equivalent of hydroxyl group in the acrylic resin of 0.8-2 and thus, the comparative data is not successful in establishing unexpected or surprising results over the prior art given that the comparative example is not within the scope of Blum et al.

Further, there is no comparative data at higher values of the ratio, i.e. at 2, which is important given that Blum et al. disclose ratio of 2 which examiner argues is but an obvious variant of the presently claimed ratio. Applicants have not established criticality of the presently claimed ratio, i.e. greater than 2.0 or 2.2, as compared to the ratio of Blum et al.

Thus, it is the examiner's position that comparative data is not successful in overcoming the "closest" prior art Blum et al.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fenn et al. (U.S. 2005/0038175) disclose coating composition comprising hydroxyl-containing acrylic resin possessing OH number of 5-500, glass transition temperature of 0-80 °C,

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and molecular weight of 700-10,000, polyisocyanate, catalyst, and pigment wherein the ratio of isocyanate group in the polyisocyanate to hydroxyl group in the acrylic resin is 0.8-2. The coating has solids content of 35-60%. However, there is no disclosure of resin fine particles or amount of pigment as presently claimed.

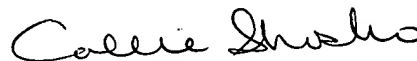
Saika et al. (U.S. 6,180,175) disclose coating comprising vinyl polymer having OH groups, polyisocyanate, resin fine particles, pigment, and catalyst. However, the ratio of isocyanate group in the polyisocyanate to hydroxyl group in the acrylic resin is 1-1.2, which is outside the scope of the present claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
5/7/05